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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,462	05/08/2001	Peter Staats	L-F / 207US	3615

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EXAMINER	
ROZANSKI, MICHAEL T	
ART UNIT	PAPER NUMBER
3768	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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Office Action Summary	Application No.	Applicant(s)	
	09/851,462	STAATS ET AL.	
	Examiner	Art Unit	
	Michael Rozanski	3768	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 December 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 6/23/2006 have been fully considered but they are not persuasive. As noted by Examiner in the previous office action, Critchlow et al. '555 do not teach a power supply for operation outside the shielded room to receive electrical power; and a power connection configured to couple electrical power through the penetration panel between the power supply outside the shielded room and the power head for actuating the power head. However, it would have been obvious to one skilled in the art at the time that the invention was made to have modified Critchlow et al. '555 in view of Kormos et al. '285 to incorporate the use of a remote power supply with a shielded wire instead of an enclosed power supply as an alternative way of reducing EMI noise.

With regard to the RF filter, both Critchlow et al. '555 and the Kormos et al. '285 do not explicitly teach the power connection comprising a radio frequency filter reducing radio frequency electrical energy carried through said power connection. It would have been obvious to one skilled in the art at the time that the invention was made to have modified Critchlow et al. '555 and the Kormos et al. '285 and incorporated the teaching of Ziarati '544 in order to use RF filters in the penetration panel to prevent RF noise from interfering with image quality. Also note Applicant's own admission as prior art in Figure 1 wherein such filters are used when outside cables penetrate the MRI room.

In addition, Examiner respectfully disagrees that official notice cannot be taken for making it obvious to combine signal connections to have a single cable. In Pub No. US 2004/0197058 to Eichelberger et al., it is admitted as old that fine coaxial shielded cables are bundled in a single cable, providing protection against electrical noise (para. [0004]). The previous rejection is sustained and made Final as it would have been obvious for the reasons given above to achieve the claimed invention. Newly added claims 8-17 are also rejected for reasons given below. Examiner would like to point out that Applicant Remarks filed 12/4/2006 do not make mention of newly added claim 17.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Critchlow et al. '555 in view of Kormos et al. '285, Ziarati '544 (US Patent No. 5,432,544), and Eichelberger et al (US Pub. 2004/0197058).

Regarding claims 1, 3-17 Critchlow et al. '555 teach a power injector system and a method for use with a magnetic resonance imaging system installed at least in part within an electromagnetic interference shielded room electrically accessible via a penetration panel (in Figure 1, scanner room 115 which is electrically accessible via penetration panel 142 also see paragraph 0014), the power injector system comprising:

a power head adapted for operation within the shielded room to controllably inject a compound into a patient (see paragraph 0030 and paragraphs 0042-0045; referring to the components of the injector including the power being enclosed in a Faraday cage 137 in order to shield and reduce EMI noise) and a control panel 110 as indicated in Figure 1 to control the injection process by signals transmitted through the fiber optic 140 (see 0038).

Critchlow et al. '555 do not teach a power supply for operation outside the shielded room to receive electrical power; and a power connection configured to couple electrical power through the penetration panel between the power supply outside the shielded room and the power head for actuating the power head.

In the same field of endeavor, Kormos et al. '285 teach the use of shielded spaces to enclose the equipment of choice in the MRI shielded room (see col. 5, lines 27-56). Kormos et al. '285 further teach the modification of using a remote power supply with a coupled shielded wire thereby removing the power from the MRI room in order to reduce EMI noise (see col. 6, lines 9-33).

It would have been obvious to one skilled in the art at the time that the invention was made to have modified Critchlow et al. '555 in view of Kormos et al. '285 to incorporate the use of a remote power supply with a shielded wire instead of an enclosed power supply as an alternative way of reducing EMI noise.

Critchlow et al. '555 further teach a power control adapted for operation within the shielded room interposed between the power supply and the power head, the power control operable to selectively actuate power head comprising an electro-mechanical

motor with the power received via the power connection from the power supply (see paragraphs 0033-0034 and referring to the power drive card 230).

Both the Critchlow et al. '555 and the Kormos et al. '285 references teach the fiber optic cable for providing control signals, and as stated in Kormos et al. '285 col. 6, lines 30-33, this is to allow for better transmission of the signals without degradation of data over long distances. Therefore, it would have been obvious to one skilled in the art at the time that the invention was made that over short distances the use of shielded cables are equivalent to fiberoptics and one skilled in the art would be motivated to use one instead of the other as a functional equivalent providing the same end result of signal and/or power transmission.

Critchlow et al. '555 and the Kormos et al. '285 do not explicitly teach the power connection comprising a radio frequency filter reducing radio frequency electrical energy carried through said power connection.

In the same field of endeavor, Ziarati '544 teach the use of cables passing through RF filters disposed in a penetration panel to prevent RF noise from external room propagating into the magnet room in order to avoid adversely affecting the image quality, thereby attenuating noise within a band to correspond to the RF frequencies used by the MRI system (see col. 3, lines 26-41). The RF filter also grounds conductive shields included within the power connection (see col. 3, line 62-col. 4, line 4). The Ziarati '544 system use ultrasound apparatus 80 (see col. 4, lines 20-41), which would have made it obvious to one skilled in art at the time the invention was made to use a

motor in Critchlow et al. '555 with ultrasonic functionality for facilitating the dispense of constast media and saline solution into a patient.

It would have been obvious to one skilled in the art at the time that the invention was made to have modified Critchlow et al. '555 and the Kormos et al. '285 and incorporated the teaching of Ziarati '544 in order to use RF filters in the penetration panel to prevent RF noise from interfering with image quality. Also note Applicant's own admission as prior art in Figure 1 wherein such filters are used when outside cables penetrate the MRI room.

Regarding claims 2 and 15, with respect to the use of a power connection, which is coupled to the data signals thereby creating a single connection, it is a well established principle in the art of electronics that a single cable is preferred over multiple cables to avoid noise. In Pub No. US 2004/0197058 to Eichelberger et al., it is admitted as old that fine coaxial shielded cables are bundled in a single cable, providing protection against electrical noise (para. [0004]).

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Rozanski whose telephone number is 571-272-1648. The examiner can normally be reached on Monday - Friday, 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eleni Mantis-Mercader can be reached on 571-272-4740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MR

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SPE 3768